DIALOGUES

between past and present:

Materials, construction techniques, and social identity through the centuries, from prehistory to the pre-industrial era in the Balkans and Eastern Mediterranean

ONLINE LECTURE SERIES

Spring 2025 | 1st lecture series

ZOOM PLATFORM: https://pantheonsorbonne.zoom.us/j/98350366717?pwd=zQWTO4lpUGh5u2W2gaJsKwJgRZrUy7.1

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18:00 (Greek time)

VASSILIKI PACHTA, Greece

Technological evolution of building materials and techniques

ABSTRACT

The evolution of constructions is closely related with the socio-economic and cultural frame of each historic era, the constructional knowledge and experience, as well as the available raw materials in each region. The earliest prehistoric structures concerned wooden frameworks, further rendered with clay, for increasing their resistance to weathering. Gradually, clay predominated in constructions, forming load bearing structures (puddled mud, cob, terre pise, adobe), applied up to nowadays. Technological milestones included the production and application of bricks and lime, both requiring kilning expertise (3 rd mil. BC), as well as the exploitation of natural pozzolan (Santorine earth) for achieving durable mortars of various applications (structural, rendering, flooring). During an extensive period of 5 millenniums (prehistoric civilizations of Egypt, Greece and Mesopotamia to the beginning of the 20 th century) stone masonries prevailed, forming multiple structural systems according to the architectural archetypes of each era. The main goal of ancient masons was the economy of constructions, their stability and resistance to weathering, constituting the diachronic principles of sustainability.

CV

Vasiliki Pachta holds a diploma of Architecture (AUTH), bachelor on Conservation of Antiquities (UNIWA) and a PhD on the technological evolution of historic mortars and structures (AUTH). She is a Laboratory faculty in the Laboratory of Building Materials, School of Civil Engineering, AUTH. Her research interests focus on the study and analysis of historic structures and materials, architectural mapping, diagnosis of pathology, development and testing of compatible repair materials. Her scientific input concerns more than 140 relevant publications (scientific journals, book chapters, proceedings of Conferences), reviewing of multiple manuscripts in Int. journals, editing of 2 journals, visiting professorship in the University of Cairo and Politecnico di Milano, scientific coordination of 2 national projects, membership in the organization committee of multiple conferences.